



PCAC

Perchlorate Community Advisory Group



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MEETING MINUTES

Friday, August 4, 2006
2:00 PM

I. Pledge of Allegiance

II. Administrative Items

- A. *Introductions*
- B. *Attendee Sign-In Sheet* - Chairperson Sylvia Hamilton encouraged people to leave their name and contact information on the sign-in sheet if they would like to receive information from and about PCAG.
- C. *Additional Agenda Items* - Regional Water Board staff added a discussion on On-Site In-Situ Soil Cleanup (III.B.3) and combined the update on the Llagas Subbasin Characterization Report and the 1st Quarter Monitoring Report (III.B.4). There was no report on Item III.B.6.
- D. *Open Forum* - Sylvia noted that the maps in the back of the room show which wells will be monitored in the future and Olin's proposed monitoring frequency. For wells with discontinued replacement/bottled water, there are four levels of monitoring – bimonthly, quarterly, semi-annually, and annually.
- E. *Approve June 29th, 2006 Meeting Minutes* - Approved as written.

III. Presentations/Discussions

- A. *Llagas Subbasin Cleanup Feasibility Study Report Review and Discussion (Jerry Orlando, Technical Outreach Services for Communities)*

The purpose of the report is to evaluate the feasibility of different cleanup remedies. Olin broke the plume into 4 areas – I, II, III, and IV. This report focused on the intermediate aquifer in Areas II, III, and IV. Olin says that Area I needs more work and will be addressed in a later report.

Q. What are the boundaries of the 4 areas?

A. Area I is from Tennant Ave to about Middle Ave, and between about Monterey and 101. Areas II, III, and IV encompass the rest of the plume down to about Hwy 152.

Olin proposed an active cleanup level of 24.5 ppb, which is equivalent to the U.S. EPA's Preliminary Remediation Goal, and a passive cleanup level of 6 ppb, which is equivalent to California's Public Health Goal and Notification Level.

Q. Why would Olin proposed different cleanup levels for different areas?

A. Olin only plans to treat areas that have high concentrations of perchlorate. They are relying on groundwater recharge with imported water to lower perchlorate concentrations.

Olin evaluated 4 remedial alternatives - no further action, monitored attenuation, ex-situ remediation, and in-situ remediation. No further action means they do nothing. Monitored attenuation means they monitor groundwater conditions. Ex-situ remediation involves pumping groundwater, treating it, and disposing of it. In-situ remediation can include biological processes and barriers.

Jerry reviewed a summary table of strategies and technologies retained by Olin for further consideration. Olin concluded that no further action and monitored attenuation are feasible in Areas II, III, and IV and that active remediation is not feasible for those areas.

Jerry went over the criteria Olin used to evaluate the possible remediation strategies and technologies. The two most important criteria, called Threshold Criteria, are "Overall Protection of Human Health and the Environment" and "Compliance with Regulatory Requirements." The next level of criteria, called "Balancing Criteria," is used to identify major tradeoffs between alternatives and includes effectiveness, reduction in toxicity, ability to implement, and cost. Olin also considered stakeholder acceptance as a third criteria.

After applying the criteria, Olin recommended monitored attenuation for Areas II, III, and IV on the basis that it is cheap, easy, and effective. It relies on cleanup in Area 1 and recharge with imported water to reduce concentrations. Active groundwater pumping was considered infeasible due to the cost (>\$250 million) and because it would lead to groundwater overdraft. Olin estimated that it would take 10-20 years for concentrations to go below 6 ppb. In the meantime, wells with perchlorate above 6 ppb would either get bottled water or ion exchange wellhead treatment.

Sylvia clarified that Jerry is summarizing Olin's report and that the regional water board has not approved the report.

Olin recommends active cleanup in the some or all of Area I. This combined with dilution/mixing from ongoing recharge and pumping will reduce perchlorate concentrations.

Q. What are approximate depths of the different aquifers?

A. Shallow – less than 100 feet below the surface; Intermediate – between about 100 and 250 feet below the surface; Deep – greater than 250 feet.

Q. Why isn't Olin doing pump and treat on ag wells?

A. That is something that needs to be followed up, to make sure that all beneficial uses are protected.

- Q. Olin says that, in Areas II, III, and IV, there are about 700,000 acre-feet of impacted groundwater and to get to background it would take 75 years of active remediation. Olin's estimate of the volume of the basin is different than the Santa Clara Valley Water District's. What number is correct?
- A. The District uses operational storage instead of total basin volume. Olin says it would take 75 years to clean up using pump and treat, but only 20 years for monitored attenuation.

Mr. Jim Ashcraft, on behalf of the City of Morgan Hill, reported that they sent an 8/1 letter to the Regional Water Board on the inadequacy of the feasibility. It is not responsive to the Regional Water Board's Cleanup and Abatement Order or the law.

- Q. When will the Regional Water Board complete its review of the Feasibility Study?
- A. Before the September 7, 2006 Board meeting [see Item III.B.,5].

B. *RWQCB Update (Hector Hernandez and Thea Tryon, Regional Water Quality Control Board staff)*

1. Title Change Clarification – Regional Board (RB) to Water Board (WB)

Hector explained that the Central Coast Regional Water Quality Control Board's new short title is Central Coast Water Board. The Central Coast Water Board is one of nine regional water boards in the State. The State Water Resources Control Board is the mother agency, though the regional water boards are independent agencies.

2. Bottled Water Termination – Clarification of State Board Criteria and Well Monitoring Requirements

Hector reviewed the history of the replacement water order as it relates to bottled water termination. The State Water Board's Order says Olin is required to provide replacement water for wells with perchlorate concentrations above 6 ppb and Olin cannot terminate replacement water until there are 4 'new' quarters (after May 2005) of monitoring results showing concentrations less than or equal to 6 ppb. Olin has now completed the 4 quarters of monitoring and has discontinued bottled water to 400 wells.

- Q. Has the State Water Board checked in with the Regional Water Board to see how things are going with the Order?
- A. Not that Regional Water Board staff are aware of.

The Regional Water Board received and reviewed 459 lab reports from Olin, at the same time Olin was sending letters regarding bottled water termination to well users. On July 19, the Regional Water Board issued a letter to Olin saying they disagreed with discontinuing bottled water for 40 of the wells, due to concerns with quality assurance/quality control (QA/QC) results. Everyone whose water was terminated should have received one of the two letters from the Regional Water Board – either stating that the Regional Water Board 'does concur' or 'does not concur' that Olin met the State Water Board's criteria.

The Regional Water Board's 7/19 letter to Olin also asked Olin to plot testing results to see if there are increasing trends and, if so, to reinstate bottled water. Also, they do not consider sampling events that occurred less than 30 days apart to be representative of different quarters and asked Olin to resample such wells.

On August 3, 2006, the Regional Water Board issued a Notice of Violation to Olin because Olin had not yet reinstated bottled water to the 40 wells that had QA/QC issues. On August 4, 2006, Olin told Regional Water Board staff that Olin has resampled all 40 wells. Five of the wells have concentrations above 6 and will have bottled water for another year.

Monitoring requirements for wells whose bottled water has been terminated depend on the highest concentration detected in the well in the last four quarters.

5-6 ppb: Bi-monthly sampling for 8 months. If concentrations are increasing, keep sampling bimonthly. If stable or decreasing, sample every 6 months for 1 year. If still steady or decreasing, collect 1 annual sample.

4-5 ppb: Sample in summer and winter for 2 years. If concentrations are increasing, continue sampling in summer and winter. If concentrations are stable or decreasing, collect 1 annual sample.

Less than 4 and within 500 feet of a well above 6 ppb: Sample every six months for one year, then 1 annual sample.

Less than 4 and more than 500 feet from a well above 6 ppb: None

- Q. How are you going to address variability in split sample results and the State Water Board's Order?
- A. We are going to do additional analyses to evaluate why there is variability in testing results.
- Q. If concentrations increase to above 5, how are monitoring requirements affected?
- A. The well would go into the new monitoring category, for results between 5 and 6 ppb.
- Q. The Dispatch reported that something in the water could cause false positive results.
- A. Other ions, such as a chloride and sulfate, in groundwater can interfere with analyses. The laboratory does spike samples to make sure that interference is not occurring. There is the potential for low measurements of perchlorate if there was interference from a high concentration of another ion.

Q. Will Olin give us 2 weeks notice of bottled water termination?

A. Yes.

Q. My bottled water was terminated and my concentrations are increasing. Do I have to pay for bottled water until my concentrations get to 6?

A. Yes. Regional Water Board staff asked Olin to reinstate bottled water if concentrations are increasing, but Olin is not required to do so.

Mr. Craig O'Donnell, staff to Assembly Member Laird, explained that the State Water Board Order in May 2005 made the decision regarding the bottled water issue; that everyone in this room opposed that decision. However, the long-term cleanup issue is not yet decided and it is important to communicate concerns to the Regional Water Board so they can make informed decisions.

Q. Can you report on health and food studies?

A. The Regional Water Board is responsible for water quality, not public health. DHS or other health agencies need to analyze the health/food studies.

Mr. Thomas Mohr, Santa Clara Valley Water District staff, explained a well might meet the criteria for discontinuing bottled water but be in the middle of the plume. Concentrations are a moving target. Decisions should not be made based on criteria that change every quarter. The number of wells above 6 ppb increased from 62 to more than 80 last quarter.

3. In-Situ Soil Cleanup

Originally, Olin thought the on-site in-situ soil cleanup would take 2-3 years. Now, they submitted a closure report after 9 months of cleanup. Regional Water Board staff will review the report.

Q. What is the hypothesis for why the cleanup was so quick?

A. Based on Olin's press release, it is because of the high temperatures. Also, bioremediation for perchlorate is relatively new, so not as easy to estimate.

4. Llagas Subbasin Characterization and 1st Quarter 2006 Monitoring Report Update

Most of the work on this case has been to the south of Tennant Avenue, since that is where the higher concentrations and most of the impacted wells are. However, during their monitoring well installations, Olin found high concentrations to the northeast and voluntarily expanded their investigation.

The Regional Water Board says Olin needs to prove other sources are contributing to the perchlorate to the northeast before the Regional Water Board can take action in that regard. Olin is still responsible for characterizing the entire plume. They need to continue to step out like they did to the south until the plume is fully characterized.

Mayor Dennis Kennedy expressed concern that by allowing Olin to step out, the cleanup process will be delayed. The City of Morgan Hill has had detections in their Dunne, Nordstrom, and San Pedro wells. The City will testify at the September Regional Water Board meeting that they expect the Water Board to require characterization of the entire plume and declare Olin the discharger for the northeast. The City has spent \$3 million on wellhead treatment, paid for with the 15% surcharge on City water fees.

Regional Water Board staff responded that it is difficult to require cleanup of trace concentrations, there are data gaps, and there are questions regarding different sources of perchlorate. They feel they are being aggressive; they are not as aggressive as the City would like. They will continue to evaluate northeast issues as data comes in. They are unsure when the data for the new northeast investigation will be submitted.

5. Water Board Hearing in Monterey

The meeting is on Thursday, September 7, 2006 at 3 PM. Staff will provide a status update. Sylvia plans to write a letter and attend the meeting. The September 7, 2006 Board meeting will be in Monterey, beginning at 3:00 PM. Community members are encouraged to participate by attending and/or writing letters. A flier of Regional Water Board meeting dates, times, and locations was distributed.

C. *Domestic Well Ion Exchange Systems Update (Tracy Hemmeter, Santa Clara Valley Water District staff)*

DHS has not yet finished their review of the 2nd submittal by Olin's consultant.

IV. **Additional Topics**

A. *Groundwater Guardian (Tracy)*

Groundwater Guardian team previously prepared a fact sheet on Reverse Osmosis (RO) treatment. RO is an effective treatment method for perchlorate, as well as nitrate and other compounds. Make sure you know the quality of your water before you buy any treatment system to make sure it will do what you need it to do. The boxes will list what chemicals the systems are certified to treat.

B. *Perchlorate Working Group (Tracy)*

The PWG will be preparing a letter regarding Olin's Feasibility Study and will attend the Regional Water Board hearing.

C. *Water District Federal Grants & Project Planning Update (Tracy)*

The two projects are in contracting or just finished with contractor hiring.

V. **Next Meeting – Thursday, August 31, 2006, 7 – 9 PM**

VI. **Adjourn/Hall Cleanup**